

Safety Data Sheet

1. Product and Company Identification

Product name:

EcoXtreme i, AI3-CY Ver.2

Manufacture:

Roland DG Corporation

Address:

1-6-4 Shinmiyakoda, Kita-ku, Hamamatsu-shi,
Shizuoka-ken, 431-2103

JAPAN

Phone:

+ 81-53-484-1224

Fax:

+ 81-53-484-1226

Importer/Supplier:

Roland DGA Corporation

Address:

15363 Barranca Parkway Irvine, CA 92618-2201
U.S.A.

Phone:

949-727-2100

Fax:

949-727-2112

Emergency telephone:

949-727-2100

Use of the product:

Inkjet Printing

Date of issue:

17 December, 2014

2. Hazard Identification

2.1 Emergency Overview:

Appearance and odor:

Blue liquid and slight odor

This product is classified as dangerous according to GHS.

Flammable liquids

Category 4

Skin corrosion/irritation

Category 2

Toxic to reproduction

Category 1B

GHS label elements, including precautionary statements

Pictogram



Signal word(s)

Danger

Hazard statement(s)

Combustible liquid.

Causes skin irritation.

May damage fertility or the unborn child

Precautionary statement(s)

Prevention	Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Wear protective gloves/protective clothing/eye protection/face protection.
Response	IF ON SKIN: Wash with plenty of soap and water. IF exposed or concerned: Get medical advice/attention.
Storage	Store in a well-ventilated place. Keep cool.

2.2. OSHA regulatory status

This product is considered hazardous material by the OSHA Communication Standard (29 CFR 1910.1200)

2.3. Potential health effects

Likely route of exposure:	Eye, skin, inhalation or oral.
Eyes:	Contact with eye will be irritating.
Skin:	Contact with skin may cause irritation, swelling or redness.
Inhalation:	Exposure to vapors (mist) may be harmful to the unborn child and at the risk of impaired fertility.
Ingestion:	May cause upset stomach.
Chronic Health Hazards:	None Known.
Carcinogenicity:	None of the ingredients in this ink is listed by IARC as a carcinogen. (1,2A and 2B)

3. Composition/Information on Ingredients

Composition	CAS No.	% By Weight	Classification HCS
Diethylene glycol diethyl ether	112-36-7	52-60	Skin Irrit. 2: H315
Dialkylene glycol dialkyl ether	C.B.I.	19-23	Not classified as hazardous
Tetraethylene glycol dimethyl ether	143-24-8	6-10	Repr. 1B: H360
Pigment blue 15	147-14-8	3-5	Not classified as hazardous

*C.B.I.: Confidential Business Information

4. First Aid Measures

4.1. First aid procedures

- Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids open during flushing. Call a physician.
- Skin: In case of contact, immediately flush with plenty of water while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. If swelling or redness occurs, call a physician.
- Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
- Ingestion: If swallowed, DO NOT induce vomiting. Seek immediate medical advice.

4.2. Note to physicians

May cause skin and eye irritation. Excessive inhalation of mist will cause respiratory irritation.

5. Fire Fighting Measures

5.1. Flammable properties:

Combustible liquid under Hazard Communication Standard (HCS, U.S.A).

Flash Point: about 70 deg.C (T.C.C.)

5.2. Extinguishing media

Suitable extinguishing media:

Water spray, dry chemical, CO₂ or foam.

Unsuitable extinguishing media:

No information

5.3. Protection of fire fighters

Special hazards arising from the substance or mixture

Toxic and irritating fume and/or gases may generate by combustion.

Protective equipment and precautions for firefighters

Wear self-contained breathing apparatus (SCBA) and full protective equipment.

Applying direct water may be dangerous because fire may expand to surroundings.

6. Accidental Release Measures

General:

Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill. Absorb spill with sand or earth then place in a chemical waste container.

6.1. Personal precautions

Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus and wear appropriate personal protective equipment.

6.2. Environmental precautions

Dike spill. Prevent liquid from entering sewers, waterways or low areas.

6.3. Methods for containment

Dike spilled product.

6.4. Methods for Clean-up

Soak up with sand or earth. Sweep up material and dispose as waste following local regulations. Scrub contaminated area with detergent and water.

6.5. Other information

No information

6.6. Spill or leak statements by type of chemical

Eliminate all ignition sources. Use appropriate personal protective equipment (PPE). Absorb and/or contain spill with inert sand, then place in suitable container. For large spills; use water spray to disperse vapors and dilute spill to a nonflammable mixture. Do not flush to sewer. Prevent run-off from entering drains, sewers or waterways.

7. Handling And Storage

7.1. Handling

Avoid contact with eyes, skin and clothing. Use proper ventilation and no fire in work place. Put protection wear that has electrical conductivity in case of work. Keep out of reach of children and do not drink. Do not dismantle container. Make sure cartridge is dry before insertion into printer housing.

7.2. Storage

Do not store the product in high or freezing temperatures. Keep the product out of direct sunlight. Do not store the product with oxidizing agents or explosives.

8. Exposure Controls/Personal Protection

8.1. Exposure Guidelines

Occupational Exposure Limits:

EU: DNEL

components	Long term exposure	Short term exposure
Pigment blue 15	4.0mg/m ³	-
Tetraethylene glycol dimethyl ether	22mg/m ³	-

REACH Toxicological Information (Workers - Hazard via inhalation route)

US: California OELs (California Code of Regulations, Title 8, Section 5155. Airborne Contaminants)

components	PEL
Diethylene glycol diethyl ether	5ppm, 33mg/m ³

8.2. Engineering controls

Provide general and/or local exhaust ventilation.

8.3. Personal protective equipment (PPE)

- Eye/face protection: Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, wear safety glasses or chemical splash goggles.
- Hand protection: Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, use protective gloves.
- Skin protection: Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, wear protective clothing.
- Respiratory protection: In case ventilation is insufficient, wear respiratory protection. Use a half facepiece respirator (with goggles) or full face-piece respirator (without goggles) filtered with organic vapor cartridge.
- General hygiene measures: Wash hands after handling. In case contact with clothing, wash before reuse. Do not eat, drink or smoke in handling or storage area.

9. Physical and Chemical Properties

Appearance:	Blue liquid
Odor:	Slight Solvent odor
Boiling point:	188.9 deg.C (Diethylene glycol diethyl ether) 176.0 deg.C (Dialkylene glycol dialkyl ether)
Melting point:	No data available
Flash point:	70 deg.C (T.C.C.)
Auto-ignition temperature:	No data available
Viscosity:	No data available
Relative density:	0.960 at 25deg.C
pH:	No data available
Solubility in Water:	Easily soluble (Diethylene glycol diethyl ether) Fusibility (Dialkylene glycol dialkyl ether)
Solid content:	No data available
Explosive properties:	
explosive limit	lower limits: 0.6vol% upper limits 13.0vol% (Diethylene glycol diethyl ether) lower limits 2.5vol% upper limits 33.0vol% (Dialkylene glycol dialkyl ether)
Oxidizing properties:	No data available
Vapor pressure:	0.38mmHg (20deg.C) (Diethylene glycol diethyl ether)
Evaporation rate:	No data available
Partition coefficient: n-octanol/water:	No data available
Decomposition Temperature:	No data available
Volatile organic compounds (VOC) content:	880.0 gram/liter (maximum value)

10. Stability and Reactivity

10.1. Reactivity:	No data available
10.2. Possibility of hazardous reactions:	Stable under normal temperature
10.3. Chemical stability:	Not expected
10.4. Conditions to avoid:	High and freezing temperatures.
10.5. Incompatible materials:	Acids and oxidizing agents
10.6. Hazardous decomposition products:	Thermal decomposition will produce oxides of carbon, copper and nitrogen.

11. Toxicological Information

*Based on toxicology data of chemically similar material

Acute Health Hazards:

1) Diethylene glycol diethyl ether	Oral LD50	4970mg/kg (Rat)*
	Dermal LD50	6097mg/kg (Rabbit)*
	Inhalant LC50	No data available
2) Dialkylene glycol dialkyl ether	Oral LD50	6000mg/kg (Rat)*
	Dermal LD50	6526mg/kg (Rabbit)*
	Inhalant LC50	No data available

Skin corrosion/irritation:	No data available
Serious eye damage/eye irritation:	No data available
Respiratory or skin sensitisation:	No data available

Germ cell mutagenicity:	Negative (by Ames Test)
Reproductive toxicity:	No data available Suspected of damaging fertility or the unborn child.(Tetraethylene glycol dimethyl ether and a similar chemical)
Carcinogenicity:	None of the ingredients in this ink is listed by IARC as a carcinogen. (1,2A and 2B)
STOT-single exposure:	Overexposure of eye may be irritating. Overexposure of skin may cause irritation and in some people swelling and redness. Inhalation may result in respiratory irritation and anesthesia. Ingestion may cause an upset stomach.
STOT-repeated exposure:	No data available
Aspiration hazard:	No data available

12. Ecological Information

Ecotoxicity:	No data available
Persistence/Degradability:	No data available
Bioaccumulation/Accumulation:	No data available
Mobility in environment media:	No data available
Other adverse effects:	No data available

13. Disposal Considerations

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Do not flush to surface water or sanitary sewer system.

14. Transport Information

14.1. UN Class/UN Number:	
ADR/ADG/DOT, IMDG, or IATA :	Not applicable
14.2. UN proper shipping name:	
ADR/ADG/DOT, IMDG, or IATA :	Not applicable
14.3. Transport hazard class(es):	
ADR/ADG/DOT, IMDG, or IATA :	Not applicable
14.4. Packing group:	
ADR/ADG/DOT, IMDG, or IATA :	Not applicable
14.5. Environmental hazards:	
ADR/ADG/DOT, IMDG, or IATA :	Not applicable
14.6. Special precautions for user:	Transport and storage of the product in accordance with general precautions and instructions mentioned in this SDS.
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and IBC code:	Not applicable

15. Regulatory information

US information:

Toxic Substances Control Act (TSCA): All ingredients are listed on the TSCA Inventory.

Product contains Diethylene glycol diethyl ether that is subject to TSCA Section 5 SNUR and to TSCA Section 12(b) export notification requirements.

Product contains Tetraethylene glycol dimethyl ether that is subject to TSCA Section 5 proposed SNUR and to TSCA Section 12(b) export notification requirements.

California; Proposition 65: Not regulated

SARA TITLE III:

Section 313:

Diethylene glycol diethyl ether (Chemical Category N230)

Dialkylene glycol dialkyl ether (Chemical Category N230)

EU information:

Chemical Safety Assessment according to (EC)1907/2006:

This product has not carried out any Chemical Safety Assessment yet.

Australia Information:

Hazardous statement: Classified as hazardous according to NOHSC criteria.

16. Other Information

NFPA 704: Hazard Rating System

Health - 1 , Flammable - 2 , Reactivity - 0

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

The information in this Safety Data Sheet (SDS) is believed to be correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. It is subject to revision as additional knowledge and experience is gained. Roland DG does not warrant the completeness or accuracy of the information contained herein.

Safety Data Sheet

1. Product and Company Identification

Product name:

EcoXtreme i, AI3-MG Ver.2

Manufacture:

Roland DG Corporation

Address:

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Use of the product:

Inkjet Printing

Date of issue:

17 December, 2014

2. Hazard Identification

2.1 Emergency Overview:

Appearance and odor:

Magenta liquid and slight odor

This product is classified as dangerous according to GHS.

Flammable liquids

Category 4

Skin corrosion/irritation

Category 2

Toxic to reproduction

Category 1B

GHS label elements, including precautionary statements

Pictogram



Signal word(s)

Danger

Hazard statement(s)

Combustible liquid.

Causes skin irritation.

May damage fertility or the unborn child

Precautionary statement(s)

Prevention	Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Wear protective gloves/protective clothing/eye protection/face protection.
Response	IF ON SKIN: Wash with plenty of soap and water. IF exposed or concerned: Get medical advice/attention.
Storage	Store in a well-ventilated place. Keep cool.

Contains Poly[oxy(methyl-1,2-ethanediyl)], .alpha...alpha.'.alpha."-1,2,3-propanetriyltris[.omega.-[(1-oxo-2-propenyl)oxy]]-. May produce an allergic reaction.

2.2. OSHA regulatory status

This product is considered hazardous material by the OSHA Communication Standard (29 CFR 1910.1200)

2.3. Potential health effects

Likely route of exposure:	Eye, skin, inhalation or oral.
Eyes:	Contact with eye will be irritating.
Skin:	Contact with skin may cause irritation, swelling or redness.
Inhalation:	Exposure to vapors (mist) may be harmful to the unborn child and at the risk of impaired fertility.
Ingestion:	May cause upset stomach.
Chronic Health Hazards:	None Known.
Carcinogenicity:	None of the ingredients in this ink is listed by IARC as a carcinogen. (1,2A and 2B)

3. Composition/Information on Ingredients

Composition	CAS No.	% By Weight	Classification HCS
Diethylene glycol diethyl ether	112-36-7	48-56	Skin Irrit. 2: H315
Dialkylene glycol dialkyl ether	C.B.I.	20-25	Not classified as hazardous
Tetraethylene glycol dimethyl ether	143-24-8	8-11	Repr. 1B: H360

*C.B.I.: Confidential Business Information

4. First Aid Measures

4.1. First aid procedures

- Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids open during flushing. Call a physician.
- Skin: In case of contact, immediately flush with plenty of water while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. If swelling or redness occurs, call a physician.
- Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
- Ingestion: If swallowed, DO NOT induce vomiting. Seek immediate medical advice.

4.2. Note to physicians

May cause skin and eye irritation. Excessive inhalation of mist will cause respiratory irritation.

5. Fire Fighting Measures

5.1. Flammable properties:

Combustible liquid under Hazard Communication Standard (HCS, U.S.A).

Flash Point: about 70 deg.C (T.C.C.)

5.2. Extinguishing media

Suitable extinguishing media:

Water spray, dry chemical, CO₂ or foam.

Unsuitable extinguishing media:

No information

5.3. Protection of fire fighters

Special hazards arising from the substance or mixture

Toxic and irritating fume and/or gases may generate by combustion.

Protective equipment and precautions for firefighters

Wear self-contained breathing apparatus (SCBA) and full protective equipment.

Applying direct water may be dangerous because fire may expand to surroundings.

6. Accidental Release Measures

General:

Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill. Absorb spill with sand or earth then place in a chemical waste container.

6.1. Personal precautions

Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus and wear appropriate personal protective equipment.

6.2. Environmental precautions

Dike spill. Prevent liquid from entering sewers, waterways or low areas.

6.3. Methods for containment

Dike spilled product.

6.4. Methods for Clean-up

Soak up with sand or earth. Sweep up material and dispose as waste following local regulations. Scrub contaminated area with detergent and water.

6.5. Other information

No information

6.6. Spill or leak statements by type of chemical

Eliminate all ignition sources. Use appropriate personal protective equipment (PPE). Absorb and/or contain spill with inert sand, then place in suitable container. For large spills; use water spray to disperse vapors and dilute spill to a nonflammable mixture. Do not flush to sewer. Prevent run-off from entering drains, sewers or waterways.

7. Handling And Storage

7.1. Handling

Avoid contact with eyes, skin and clothing. Use proper ventilation and no fire in work place. Put protection wear that has electrical conductivity in case of work. Keep out of reach of children and do not drink. Do not dismantle container. Make sure cartridge is dry before insertion into printer housing.

7.2. Storage

Do not store the product in high or freezing temperatures. Keep the product out of direct sunlight. Do not store the product with oxidizing agents or explosives.

8. Exposure Controls/Personal Protection

8.1. Exposure Guidelines

Occupational Exposure Limits:

EU: DNEL

components	Long term exposure	Short term exposure
Tetraethylene glycol dimethyl ether	22mg/m ³	-

REACH Toxicological Information (Workers - Hazard via inhalation route)

US: California OELs (California Code of Regulations, Title 8, Section 5155. Airborne Contaminants)

components	PEL
Diethylene glycol diethyl ether	5ppm, 33mg/m ³

8.2. Engineering controls

Provide general and/or local exhaust ventilation.

8.3. Personal protective equipment (PPE)

Eye/face protection: Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, wear safety glasses or chemical splash goggles.

Hand protection: Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, use protective gloves.

Skin protection: Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, wear protective clothing.

Respiratory protection: In case ventilation is insufficient, wear respiratory protection. Use a half facepiece respirator (with goggles) or full face-piece respirator (without goggles) filtered with organic vapor cartridge.

General hygiene measures: Wash hands after handling. In case contact with clothing, wash before reuse. Do not eat, drink or smoke in handling or storage area.

9. Physical and Chemical Properties

Appearance:	Magenta liquid
Odor:	Slight Solvent odor
Boiling point:	188.9 deg.C (Diethylene glycol diethyl ether) 176.0 deg.C (Diethylene glycol dialkyl ether)
Melting point:	No data available
Flash point:	70 deg.C (T.C.C.)
Auto-ignition temperature:	No data available

Viscosity:	No data available
Relative density:	0.961 at 25deg.C
pH:	No data available
Solubility in Water:	Easily soluble (Diethylene glycol diethyl ether) Fusibility (Dialkylene glycol dialkyl ether)
Solid content:	No data available
Explosive properties:	
explosive limit	lower limits: 0.6vol% upper limits 13.0vol% (Diethylene glycol diethyl ether) lower limits 2.5vol% upper limits 33.0vol% (Dialkylene glycol dialkyl ether)
Oxidizing properties:	No data available
Vapor pressure:	0.38mmHg (20deg.C) (Diethylene glycol diethyl ether)
Evaporation rate:	No data available
Partition coefficient: n-octanol/water:	No data available
Decomposition Temperature:	No data available
Volatile organic compounds (VOC) content:	880.0 gram/liter (maximum value)

10. Stability and Reactivity

10.1. Reactivity:	No data available
10.2. Possibility of hazardous reactions:	Stable under normal temperature
10.3. Chemical stability:	Not expected
10.4. Conditions to avoid:	High and freezing temperatures.
10.5. Incompatible materials:	Acids and oxidizing agents
10.6. Hazardous decomposition products:	Thermal decomposition will produce oxides of carbon, copper and nitrogen.

11. Toxicological Information

*Based on toxicology data of chemically similar material

Acute Health Hazards:

1) Diethylene glycol diethyl ether	Oral LD50	4970mg/kg (Rat)*
	Dermal LD50	6097mg/kg (Rabbit)*
	Inhalant LC50	No data available
2) Dialkylene glycol dialkyl ether	Oral LD50	6000mg/kg (Rat)*
	Dermal LD50	6526mg/kg (Rabbit)*
	Inhalant LC50	No data available

Skin corrosion/irritation:	No data available
Serious eye damage/eye irritation:	No data available
Respiratory or skin sensitisation:	No data available
Germ cell mutagenicity:	Negative (by Ames Test)
Reproductive toxicity:	No data available Suspected of damaging fertility or the unborn child.(Tetraethylene glycol dimethyl ether and a similar chemical)
Carcinogenicity:	None of the ingredients in this ink is listed by IARC as a carcinogen. (1,2A and 2B)

STOT-single exposure:	Overexposure of eye may be irritating. Overexposure of skin may cause irritation and in some people swelling and redness. Inhalation may result in respiratory irritation and anesthesia. Ingestion may cause an upset stomach.
STOT-repeated exposure:	No data available
Aspiration hazard:	No data available

12. Ecological Information

Ecotoxicity:	No data available
Persistence/Degradability:	No data available
Bioaccumulation/Accumulation:	No data available
Mobility in environment media:	No data available
Other adverse effects:	No data available

13. Disposal Considerations

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Do not flush to surface water or sanitary sewer system.

14. Transport Information

14.1. UN Class/UN Number:	
ADR/ADG/DOT, IMDG, or IATA :	Not applicable
14.2. UN proper shipping name:	
ADR/ADG/DOT, IMDG, or IATA :	Not applicable
14.3. Transport hazard class(es):	
ADR/ADG/DOT, IMDG, or IATA :	Not applicable
14.4. Packing group:	
ADR/ADG/DOT, IMDG, or IATA :	Not applicable
14.5. Environmental hazards:	
ADR/ADG/DOT, IMDG, or IATA :	Not applicable
14.6. Special precautions for user:	Transport and storage of the product in accordance with general precautions and instructions mentioned in this SDS.
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and IBC code:	Not applicable

15. Regulatory Information

US information:

Toxic Substances Control Act (TSCA): All ingredients are listed on the TSCA Inventory.

Product contains Diethylene glycol diethyl ether that is subject to TSCA Section 5 SNUR and to TSCA Section 12(b) export notification requirements.

Product contains Tetraethylene glycol dimethyl ether that is subject to TSCA Section 5 proposed SNUR and to TSCA Section 12(b) export notification requirements.

California; Proposition 65: Not regulated

SARA TITLE III:

Section 313:

Diethylene glycol diethyl ether (Chemical Category N230)

Dialkylene glycol dialkyl ether (Chemical Category N230)

EU information:

Chemical Safety Assessment according to (EC)1907/2006:

This product has not carried out any Chemical Safety Assessment yet.

Australia Information:

Hazardous statement: Classified as hazardous according to NOHSC criteria.

16. Other Information

NFPA 704: Hazard Rating System

Health - 1 , Flammable - 2 , Reactivity - 0

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

The information in this Safety Data Sheet (SDS) is believed to be correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. It is subject to revision as additional knowledge and experience is gained. Roland DG does not warrant the completeness or accuracy of the information contained herein.

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Product name:

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Manufacture:

Roland DG Corporation

Address:

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Roland DGA Corporation

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Phone:

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Emergency telephone:

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Use of the product:

Inkjet Printing

Date of issue:

17 December, 2014

2. Hazard Identification

2.1 Emergency Overview:

Appearance and odor:

Yellow liquid and slight odor

This product is classified as dangerous according to GHS.

Flammable liquids

Category 4

Skin corrosion/irritation

Category 2

Toxic to reproduction

Category 1B

GHS label elements, including precautionary statements

Pictogram



Signal word(s)

Danger

Hazard statement(s)

Combustible liquid.

Causes skin irritation.

May damage fertility or the unborn child

Precautionary statement(s)

Prevention	Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Wear protective gloves/protective clothing/eye protection/face protection.
Response	IF ON SKIN: Wash with plenty of soap and water. IF exposed or concerned: Get medical advice/attention.
Storage	Store in a well-ventilated place. Keep cool.

2.2. OSHA regulatory status

This product is considered hazardous material by the OSHA Communication Standard (29 CFR 1910.1200)

2.3. Potential health effects

Likely route of exposure:	Eye, skin, inhalation or oral.
Eyes:	Contact with eye will be irritating.
Skin:	Contact with skin may cause irritation, swelling or redness.
Inhalation:	Exposure to vapors (mist) may be harmful to the unborn child and at the risk of impaired fertility.
Ingestion:	May cause upset stomach.
Chronic Health Hazards:	None Known.
Carcinogenicity:	The product contains Nickel compounds. IARC evaluated printing ink as a Group3(Not classifiable as to carcinogenicity to humans).

3. Composition/Information on Ingredients

Composition	CAS No.	% By Weight	Classification HCS
Diethylene glycol diethyl ether	112-36-7	48-56	Skin Irrit. 2: H315
Dialkylene glycol dialkyl ether	C.B.I.	20-25	Not classified as hazardous
Tetraethylene glycol dimethyl ether	143-24-8	8-11	Repr. 1B: H360
Pigment yellow 150	68511-62-6	4-7	Not classified as hazardous

*C.B.I.: Confidential Business Information

4. First Aid Measures

4.1. First aid procedures

- Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids open during flushing. Call a physician.
- Skin: In case of contact, immediately flush with plenty of water while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. If swelling or redness occurs, call a physician.
- Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
- Ingestion: If swallowed, DO NOT induce vomiting. Seek immediate medical advice.

4.2. Note to physicians

May cause skin and eye irritation. Excessive inhalation of mist will cause respiratory irritation.

5. Fire Fighting Measures

5.1. Flammable properties:

Combustible liquid under Hazard Communication Standard (HCS, U.S.A).

Flash Point: about 70 deg.C (T.C.C.)

5.2. Extinguishing media

Suitable extinguishing media:

Water spray, dry chemical, CO₂ or foam.

Unsuitable extinguishing media:

No information

5.3. Protection of fire fighters

Special hazards arising from the substance or mixture

Toxic and irritating fume and/or gases may generate by combustion.

Protective equipment and precautions for firefighters

Wear self-contained breathing apparatus (SCBA) and full protective equipment.

Applying direct water may be dangerous because fire may expand to surroundings.

6. Accidental Release Measures

General:

Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill. Absorb spill with sand or earth then place in a chemical waste container.

6.1. Personal precautions

Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus and wear appropriate personal protective equipment.

6.2. Environmental precautions

Dike spill. Prevent liquid from entering sewers, waterways or low areas.

6.3. Methods for containment

Dike spilled product.

6.4. Methods for Clean-up

Soak up with sand or earth. Sweep up material and dispose as waste following local regulations. Scrub contaminated area with detergent and water.

6.5. Other information

No information

6.6. Spill or leak statements by type of chemical

Eliminate all ignition sources. Use appropriate personal protective equipment (PPE). Absorb and/or contain spill with inert sand, then place in suitable container. For large spills; use water spray to disperse vapors and dilute spill to a nonflammable mixture. Do not flush to sewer. Prevent run-off from entering drains, sewers or waterways.

7. Handling And Storage

7.1. Handling

Avoid contact with eyes, skin and clothing. Use proper ventilation and no fire in work place. Put protection wear that has electrical conductivity in case of work. Keep out of reach of children and do not drink. Do not dismantle container. Make sure cartridge is dry before insertion into printer housing.

7.2. Storage

Do not store the product in high or freezing temperatures. Keep the product out of direct sunlight. Do not store the product with oxidizing agents or explosives.

8. Exposure Controls/Personal Protection

8.1. Exposure Guidelines

Occupational Exposure Limits:

EU: DNEL

components	Long term exposure	Short term exposure
Tetraethylene glycol dimethyl ether	22mg/m ³	-

REACH Toxicological Information (Workers - Hazard via inhalation route)

US:

components	OSHA:PEL	ACGIH:TLV
Nickel compounds	1mg/m ³	-

California OELs (California Code of Regulations, Title 8, Section 5155. Airborne Contaminants)

components	PEL
Nickel, insoluble compounds, as Ni	0.1mg/m ³
Diethylene glycol diethyl ether	5ppm, 33mg/m ³

8.2. Engineering controls

Provide general and/or local exhaust ventilation.

8.3. Personal protective equipment (PPE)

- Eye/face protection: Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, wear safety glasses or chemical splash goggles.
- Hand protection: Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, use protective gloves.
- Skin protection: Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, wear protective clothing.
- Respiratory protection: In case ventilation is insufficient, wear respiratory protection. Use a half facepiece respirator (with goggles) or full face-piece respirator (without goggles) filtered with organic vapor cartridge.
- General hygiene measures: Wash hands after handling. In case contact with clothing, wash before reuse. Do not eat, drink or smoke in handling or storage area.

9. Physical and Chemical Properties

Appearance:	Yellow liquid
Odor:	Slight Solvent odor
Boiling point:	188.9 deg.C (Diethylene glycol diethyl ether) 176.0 deg.C (Dialkylene glycol dialkyl ether)
Melting point:	No data available
Flash point:	70 deg.C (T.C.C.)
Auto-ignition temperature:	No data available
Viscosity:	No data available
Relative density:	0.966 at 25deg.C
pH:	No data available
Solubility in Water:	Easily soluble (Diethylene glycol diethyl ether) Fusibility (Dialkylene glycol dialkyl ether)
Solid content:	No data available
Explosive properties:	
explosive limit	lower limits: 0.6vol% upper limits 13.0vol% (Diethylene glycol diethyl ether) lower limits 2.5vol% upper limits 33.0vol% (Dialkylene glycol dialkyl ether)
Oxidizing properties:	No data available
Vapor pressure:	0.38mmHg (20deg.C) (Diethylene glycol diethyl ether)
Evaporation rate:	No data available
Partition coefficient: n-octanol/water:	No data available
Decomposition Temperature:	No data available
Volatile organic compounds (VOC) content:	880.0 gram/liter (maximum value)

10. Stability and Reactivity

10.1. Reactivity:	No data available
10.2. Possibility of hazardous reactions:	Stable under normal temperature
10.3. Chemical stability:	Not expected
10.4. Conditions to avoid:	High and freezing temperatures.
10.5. Incompatible materials:	Acids and oxidizing agents
10.6. Hazardous decomposition products:	Thermal decomposition will produce oxides of carbon, copper and nitrogen.

11. Toxicological Information

*Based on toxicology data of chemically similar material

Acute Health Hazards:

1) Diethylene glycol diethyl ether	Oral LD50	4970mg/kg (Rat)*
	Dermal LD50	6097mg/kg (Rabbit)*
	Inhalant LC50	No data available
2) Dialkylene glycol dialkyl ether	Oral LD50	6000mg/kg (Rat)*
	Dermal LD50	6526mg/kg (Rabbit)*
	Inhalant LC50	No data available

Skin corrosion/irritation:	No data available
Serious eye damage/eye irritation:	No data available
Respiratory or skin sensitisation:	No data available
Germ cell mutagenicity:	Negative (by Ames Test)
Reproductive toxicity:	No data available Suspected of damaging fertility or the unborn child.(Tetraethylene glycol dimethyl ether and a similar chemical)
Carcinogenicity:	The product contains Nickel compounds. IARC evaluated printing ink as a Group3(Not classifiable as to carcinogenicity to humans).
STOT-single exposure:	Overexposure of eye may be irritating. Overexposure of skin may cause irritation and in some people swelling and redness. Inhalation may result in respiratory irritation and anesthesia. Ingestion may cause an upset stomach.
STOT-repeated exposure:	No data available
Aspiration hazard:	No data available

12. Ecological Information

Ecotoxicity:	No data available
Persistence/Degradability:	No data available
Bioaccumulation/Accumulation:	No data available
Mobility in environment media:	No data available
Other adverse effects:	No data available

13. Disposal Considerations

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Do not flush to surface water or sanitary sewer system.

14. Transport Information

14.1. UN Class/UN Number:	
ADR/ADG/DOT, IMDG, or IATA :	Not applicable
14.2. UN proper shipping name:	
ADR/ADG/DOT, IMDG, or IATA :	Not applicable
14.3. Transport hazard class(es):	
ADR/ADG/DOT, IMDG, or IATA :	Not applicable
14.4. Packing group:	
ADR/ADG/DOT, IMDG, or IATA :	Not applicable
14.5. Environmental hazards:	
ADR/ADG/DOT, IMDG, or IATA :	Not applicable
14.6. Special precautions for user:	Transport and storage of the product in accordance with general precautions and instructions mentioned in this SDS.
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and IBC code:	Not applicable

15. Regulatory Information

US information:

Toxic Substances Control Act (TSCA): All ingredients are listed on the TSCA Inventory.

Product contains Diethylene glycol diethyl ether that is subject to TSCA Section 5 SNUR and to TSCA Section 12(b) export notification requirements.

Product contains Tetraethylene glycol dimethyl ether that is subject to TSCA Section 5 proposed SNUR and to TSCA Section 12(b) export notification requirements.

California; Proposition 65: Pigment yellow150 (Nickel Compounds)

SARA TITLE III:

Section 313:

Pigment yellow150 (Nickel Compounds) (Category Code N495)

Diethylene glycol diethyl ether (Chemical Category N230)

Dialkylene glycol dialkyl ether (Chemical Category N230)

EU information:

Chemical Safety Assessment according to (EC)1907/2006:

This product has not carried out any Chemical Safety Assessment yet.

Australia Information:

Hazardous statement: Classified as hazardous according to NOHSC criteria.

16. Other Information

NFPA 704: Hazard Rating System

Health - 1 , Flammable - 2 , Reactivity - 0

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

The information in this Safety Data Sheet (SDS) is believed to be correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. It is subject to revision as additional knowledge and experience is gained. Roland DG does not warrant the completeness or accuracy of the information contained herein.

Safety Data Sheet

1. Product and Company Identification

Product name:

EcoXtreme i, AI3-BK Ver.2

Manufacture:

Roland DG Corporation

Address:

1-6-4 Shinmiyakoda, Kita-ku, Hamamatsu-shi,
Shizuoka-ken, 431-2103
JAPAN

Phone:

+ 81-53-484-1224

Fax:

+ 81-53-484-1226

Importer/Supplier:

Roland DGA Corporation

Address:

15363 Barranca Parkway Irvine, CA 92618-2201
U.S.A.

Phone:

949-727-2100

Fax:

949-727-2112

Emergency telephone:

949-727-2100

Use of the product:

Inkjet Printing

Date of issue:

17 December, 2014

2. Hazard Identification

2.1 Emergency Overview:

Appearance and odor:

Black liquid and slight odor

This product is classified as dangerous according to GHS.

Flammable liquids

Category 4

Skin corrosion/irritation

Category 2

Toxic to reproduction

Category 1B

GHS label elements, including precautionary statements

Pictogram



Signal word(s)

Danger

Hazard statement(s)

Combustible liquid.

Causes skin irritation.

May damage fertility or the unborn child

Precautionary statement(s)

Prevention	Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Wear protective gloves/protective clothing/eye protection/face protection.
Response	IF ON SKIN: Wash with plenty of soap and water. IF exposed or concerned: Get medical advice/attention.
Storage	Store in a well-ventilated place. Keep cool.

2.2. OSHA regulatory status

This product is considered hazardous material by the OSHA Communication Standard (29 CFR 1910.1200)

2.3. Potential health effects

Likely route of exposure:	Eye, skin, inhalation or oral.
Eyes:	Contact with eye will be irritating.
Skin:	Contact with skin may cause irritation, swelling or redness.
Inhalation:	Exposure to vapors (mist) may be harmful to the unborn child and at the risk of impaired fertility.
Ingestion:	May cause upset stomach.
Chronic Health Hazards:	None Known.
Carcinogenicity:	The product contains Carbon black. IARC evaluated printing ink as a Group3(Not classifiable as to carcinogenicity to humans).

3. Composition/Information on Ingredients

Composition	CAS No.	% By Weight	Classification HCS
Diethylene glycol diethyl ether	112-36-7	50-59	Skin Irrit. 2: H315
Dialkylene glycol dialkyl ether	C.B.I.	18-24	Not classified as hazardous
Tetraethylene glycol dimethyl ether	143-24-8	6-10	Repr. 1B: H360
Carbon black	1333-86-4	3-5	Not classified as hazardous
Pigment blue 15	147-14-8	1-2	Not classified as hazardous

*C.B.I.: Confidential Business Information

4. First Aid Measures

4.1. First aid procedures

- Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids open during flushing. Call a physician.
- Skin: In case of contact, immediately flush with plenty of water while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. If swelling or redness occurs, call a physician.
- Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
- Ingestion: If swallowed, DO NOT induce vomiting. Seek immediate medical advice.

4.2. Note to physicians

May cause skin and eye irritation. Excessive inhalation of mist will cause respiratory irritation.

5. Fire Fighting Measures

5.1. Flammable properties:

Combustible liquid under Hazard Communication Standard (HCS, U.S.A).

Flash Point: about 70 deg.C (T.C.C.)

5.2. Extinguishing media

Suitable extinguishing media:

Water spray, dry chemical, CO₂ or foam.

Unsuitable extinguishing media:

No information

5.3. Protection of fire fighters

Special hazards arising from the substance or mixture

Toxic and irritating fume and/or gases may generate by combustion.

Protective equipment and precautions for firefighters

Wear self-contained breathing apparatus (SCBA) and full protective equipment.

Applying direct water may be dangerous because fire may expand to surroundings.

6. Accidental Release Measures

General:

Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill. Absorb spill with sand or earth then place in a chemical waste container.

6.1. Personal precautions

Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus and wear appropriate personal protective equipment.

6.2. Environmental precautions

Dike spill. Prevent liquid from entering sewers, waterways or low areas.

6.3. Methods for containment

Dike spilled product.

6.4. Methods for Clean-up

Soak up with sand or earth. Sweep up material and dispose as waste following local regulations. Scrub contaminated area with detergent and water.

6.5. Other information

No information

6.6. Spill or leak statements by type of chemical

Eliminate all ignition sources. Use appropriate personal protective equipment (PPE). Absorb and/or contain spill with inert sand, then place in suitable container. For large spills; use water spray to disperse vapors and dilute spill to a nonflammable mixture. Do not flush to sewer. Prevent run-off from entering drains, sewers or waterways.

7. Handling And Storage

7.1. Handling

Avoid contact with eyes, skin and clothing. Use proper ventilation and no fire in work place. Put protection wear that has electrical conductivity in case of work. Keep out of reach of children and do not drink. Do not dismantle container. Make sure cartridge is dry before insertion into printer housing.

7.2. Storage

Do not store the product in high or freezing temperatures. Keep the product out of direct sunlight. Do not store the product with oxidizing agents or explosives.

8. Exposure Controls/Personal Protection

8.1. Exposure Guidelines

Occupational Exposure Limits:

EU: DNEL

components	Long term exposure	Short term exposure
Carbon black	2mg/m ³	-
Pigment blue 15	4.0mg/m ³	-
Tetraethylene glycol dimethyl ether	22mg/m ³	-

REACH Toxicological Information (Workers - Hazard via inhalation route)

US:

components	OSHA:PEL	ACGIH:TLV
Carbon black	3.5mg/m ³	3.5mg/m ³

California OELs (California Code of Regulations, Title 8, Section 5155. Airborne Contaminants)

components	PEL
Carbon black	3.5mg/m ³
Diethylene glycol diethyl ether	5ppm, 33mg/m ³

Australia: OELs

components	TWA
Carbon black	3mg/m ³

8.2. Engineering controls

Provide general and/or local exhaust ventilation.

8.3. Personal protective equipment (PPE)

- Eye/face protection: Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, wear safety glasses or chemical splash goggles.
- Hand protection: Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, use protective gloves.
- Skin protection: Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, wear protective clothing.

Respiratory protection:	In case ventilation is insufficient, wear respiratory protection. Use a half facepiece respirator (with goggles) or full face-piece respirator (without goggles) filtered with organic vapor cartridge.
General hygiene measures:	Wash hands after handling. In case contact with clothing, wash before reuse. Do not eat, drink or smoke in handling or storage area.

9. Physical and Chemical Properties

Appearance:	Black Liquid
Odor:	Slight Solvent odor
Boiling point:	188.9 deg.C (Diethylene glycol diethyl ether) 176.0 deg.C (Dialkylene glycol dialkyl ether)
Melting point:	No data available
Flash point:	70 deg.C (T.C.C.)
Auto-ignition temperature:	No data available
Viscosity:	No data available
Relative density:	0.966 at 25deg.C
pH:	No data available
Solubility in Water:	Easily soluble (Diethylene glycol diethyl ether) Fusibility (Dialkylene glycol dialkyl ether)
Solid content:	No data available
Explosive properties:	
explosive limit	lower limits: 0.6vol% upper limits 13.0vol% (Diethylene glycol diethyl ether) lower limits 2.5vol% upper limits 33.0vol% (Dialkylene glycol dialkyl ether)
Oxidizing properties:	No data available
Vapor pressure:	0.38mmHg (20deg.C) (Diethylene glycol diethyl ether)
Evaporation rate:	No data available
Partition coefficient: n-octanol/water:	No data available
Decomposition Temperature:	No data available
Volatile organic compounds (VOC) content:	880.0 gram/liter (maximum value)

10. Stability and Reactivity

10.1. Reactivity:	No data available
10.2. Possibility of hazardous reactions:	Stable under normal temperature
10.3. Chemical stability:	Not expected
10.4. Conditions to avoid:	High and freezing temperatures.
10.5. Incompatible materials:	Acids and oxidizing agents
10.6. Hazardous decomposition products:	Thermal decomposition will produce oxides of carbon, copper and nitrogen.

11. Toxicological Information

*Based on toxicology data of chemically similar material

Acute toxicity:		
1) Diethylene glycol diethyl ether	Oral LD50	4970mg/kg (Rat)*
	Dermal LD50	6097mg/kg (Rabbit)*
	Inhalant LC50	No data available
2) Dialkylene glycol dialkyl ether	Oral LD50	6000mg/kg (Rat)*
	Dermal LD50	6526mg/kg (Rabbit)*
	Inhalant LC50	No data available

Skin corrosion/irritation:	No data available
Serious eye damage/eye irritation:	No data available
Respiratory or skin sensitisation:	No data available
Germ cell mutagenicity:	Negative (by Ames Test)
Reproductive toxicity:	No data available Suspected of damaging fertility or the unborn child.(Tetraethylene glycol dimethyl ether and a similar chemical)
Carcinogenicity:	The product contains Carbon black. IARC evaluated printing ink as a Group3(Not classifiable as to carcinogenicity to humans).
STOT-single exposure:	Overexposure of eye may be irritating. Overexposure of skin may cause irritation and in some people swelling and redness. Inhalation may result in respiratory irritation and anesthesia. Ingestion may cause an upset stomach.
STOT-repeated exposure:	No data available
Aspiration hazard:	No data available

12. Ecological Information

Ecotoxicity:	No data available
Persistence/Degradability:	No data available
Bioaccumulation/Accumulation:	No data available
Mobility in environment media:	No data available
Other adverse effects:	No data available

13. Disposal Considerations

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Do not flush to surface water or sanitary sewer system.

14. Transport Information

14.1. UN Class/UN Number:	
ADR/ADG/DOT, IMDG, or IATA :	Not applicable
14.2. UN proper shipping name:	
ADR/ADG/DOT, IMDG, or IATA :	Not applicable
14.3. Transport hazard class(es):	
ADR/ADG/DOT, IMDG, or IATA :	Not applicable
14.4. Packing group:	
ADR/ADG/DOT, IMDG, or IATA :	Not applicable
14.5. Environmental hazards:	
ADR/ADG/DOT, IMDG, or IATA :	Not applicable
14.6. Special precautions for user:	Transport and storage of the product in accordance with general precautions and instructions mentioned in this SDS.
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and IBC code:	Not applicable

15. Regulatory Information

US information:

Toxic Substances Control Act (TSCA): All ingredients are listed on the TSCA Inventory.

Product contains Diethylene glycol diethyl ether that is subject to TSCA Section 5 SNUR and to TSCA Section 12(b) export notification requirements.

Product contains Tetraethylene glycol dimethyl ether that is subject to TSCA Section 5 proposed SNUR and to TSCA Section 12(b) export notification requirements.

California; Proposition 65: Not regulated

SARA TITLE III:

Section 313:

Diethylene glycol diethyl ether (Chemical Category N230)

Dialkylene glycol dialkyl ether (Chemical Category N230)

EU information:

Chemical Safety Assessment according to (EC)1907/2006:

This product has not carried out any Chemical Safety Assessment yet.

Australia Information:

Hazardous statement: Classified as hazardous according to NOHSC criteria.

16. Other Information

NFPA 704: Hazard Rating System

Health - 1 , Flammable - 2 , Reactivity - 0

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

The information in this Safety Data Sheet (SDS) is believed to be correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. It is subject to revision as additional knowledge and experience is gained. Roland DG does not warrant the completeness or accuracy of the information contained herein.

Safety Data Sheet

1. Product and Company Identification

Product name:

EcoXtreme i, AI3-LC Ver.2

Manufacture:

Roland DG Corporation

Address:

1-6-4 Shinmiyakoda, Kita-ku, Hamamatsu-shi,
Shizuoka-ken, 431-2103
JAPAN

Phone:

+ 81-53-484-1224

Fax:

+ 81-53-484-1226

Importer/Supplier:

Roland DGA Corporation

Address:

15363 Barranca Parkway Irvine, CA 92618-2201
U.S.A.

Phone:

949-727-2100

Fax:

949-727-2112

Emergency telephone:

949-727-2100

Use of the product:

Inkjet Printing

Date of issue:

17 December, 2014

2. Hazard Identification

2.1 Emergency Overview:

Appearance and odor:

Light Blue liquid and slight odor

This product is classified as dangerous according to GHS.

Flammable liquids

Category 4

Skin corrosion/irritation

Category 2

Toxic to reproduction

Category 1B

GHS label elements, including precautionary statements

Pictogram



Signal word(s)

Danger

Hazard statement(s)

Combustible liquid.

Causes skin irritation.

May damage fertility or the unborn child

Precautionary statement(s)

Prevention	Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Wear protective gloves/protective clothing/eye protection/face protection.
Response	IF ON SKIN: Wash with plenty of soap and water. IF exposed or concerned: Get medical advice/attention.
Storage	Store in a well-ventilated place. Keep cool.

2.2. OSHA regulatory status

This product is considered hazardous material by the OSHA Communication Standard (29 CFR 1910.1200)

2.3. Potential health effects

Likely route of exposure:	Eye, skin, inhalation or oral.
Eyes:	Contact with eye will be irritating.
Skin:	Contact with skin may cause irritation, swelling or redness.
Inhalation:	Exposure to vapors (mist) may be harmful to the unborn child and at the risk of impaired fertility.
Ingestion:	May cause upset stomach.
Chronic Health Hazards:	None Known.
Carcinogenicity:	None of the ingredients in this ink is listed by IARC as a carcinogen. (1,2A and 2B)

3. Composition/Information on Ingredients

Composition	CAS No.	% By Weight	Classification HCS
Diethylene glycol diethyl ether	112-36-7	55-65	Skin Irrit. 2: H315
Dialkylene glycol dialkyl ether	C.B.I.	18-25	Not classified as hazardous
Tetraethylene glycol dimethyl ether	143-24-8	6-10	Repr. 1B: H360
Pigment blue 15	147-14-8	0.5-1	Not classified as hazardous

*C.B.I.: Confidential Business Information

4. First Aid Measures
4.1. First aid procedures

Eyes:	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids open during flushing. Call a physician.
Skin:	In case of contact, immediately flush with plenty of water while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. If swelling or redness occurs, call a physician.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
Ingestion:	If swallowed, DO NOT induce vomiting. Seek immediate medical advice.

4.2. Note to physicians

May cause skin and eye irritation. Excessive inhalation of mist will cause respiratory irritation.

5. Fire Fighting Measures

5.1. Flammable properties:

Combustible liquid under Hazard Communication Standard (HCS, U.S.A).

Flash Point: about 70 deg.C (T.C.C.)

5.2. Extinguishing media

Suitable extinguishing media:

Water spray, dry chemical, CO₂ or foam.

Unsuitable extinguishing media:

No information

5.3. Protection of fire fighters

Special hazards arising from the substance or mixture

Toxic and irritating fume and/or gases may generate by combustion.

Protective equipment and precautions for firefighters

Wear self-contained breathing apparatus (SCBA) and full protective equipment.

Applying direct water may be dangerous because fire may expand to surroundings.

6. Accidental Release Measures

General:

Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill. Absorb spill with sand or earth then place in a chemical waste container.

6.1. Personal precautions

Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus and wear appropriate personal protective equipment.

6.2. Environmental precautions

Dike spill. Prevent liquid from entering sewers, waterways or low areas.

6.3. Methods for containment

Dike spilled product.

6.4. Methods for Clean-up

Soak up with sand or earth. Sweep up material and dispose as waste following local regulations. Scrub contaminated area with detergent and water.

6.5. Other information

No information

6.6. Spill or leak statements by type of chemical

Eliminate all ignition sources. Use appropriate personal protective equipment (PPE). Absorb and/or contain spill with inert sand, then place in suitable container. For large spills; use water spray to disperse vapors and dilute spill to a nonflammable mixture. Do not flush to sewer. Prevent run-off from entering drains, sewers or waterways.

7. Handling And Storage

7.1. Handling

Avoid contact with eyes, skin and clothing. Use proper ventilation and no fire in work place. Put protection wear that has electrical conductivity in case of work. Keep out of reach of children and do not drink. Do not dismantle container. Make sure cartridge is dry before insertion into printer housing.

7.2. Storage

Do not store the product in high or freezing temperatures. Keep the product out of direct sunlight. Do not store the product with oxidizing agents or explosives.

8. Exposure Controls/Personal Protection

8.1. Exposure Guidelines

Occupational Exposure Limits:

EU: DNEL

components	Long term exposure	Short term exposure
Pigment blue 15	4.0mg/m ³	-
Tetraethylene glycol dimethyl ether	22mg/m ³	-

REACH Toxicological Information (Workers - Hazard via inhalation route)

US: California OELs (California Code of Regulations, Title 8, Section 5155. Airborne Contaminants)

components	PEL
Diethylene glycol diethyl ether	5ppm, 33mg/m ³

8.2. Engineering controls

Provide general and/or local exhaust ventilation.

8.3. Personal protective equipment (PPE)

- Eye/face protection: Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, wear safety glasses or chemical splash goggles.
- Hand protection: Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, use protective gloves.
- Skin protection: Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, wear protective clothing.
- Respiratory protection: In case ventilation is insufficient, wear respiratory protection. Use a half facepiece respirator (with gollges) or full face-piece respirator (without goggles) filtered with organic vapor cartridge.
- General hygiene measures: Wash hands after handling. In case contact with clothing, wash before reuse. Do not eat, drink or smoke in handling or storage area.

9. Physical and Chemical Properties

- Appearance: Light Blue liquid
- Odor: Slight Solvent odor
- Boiling point: 188.9 deg.C (Diethylene glycol diethyl ether)
176.0 deg.C (Dialkylene glycol dialkyl ether)
- Melting point: No data available
- Flash point: 70 deg.C (T.C.C.)
- Auto-ignition temperature: No data available
- Viscosity: No data available
- Relative density: 0.946 at 25deg.C
- pH: No data available

Solubility in Water:	Easily soluble (Diethylene glycol diethyl ether) Fusibility (Dialkylene glycol dialkyl ether)
Solid content:	No data available
Explosive properties:	
explosive limit	lower limits: 0.6vol% upper limits 13.0vol% (Diethylene glycol diethyl ether) lower limits 2.5vol% upper limits 33.0vol% (Dialkylene glycol dialkyl ether)
Oxidizing properties:	No data available
Vapor pressure:	0.38mmHg (20deg.C) (Diethylene glycol diethyl ether)
Evaporation rate:	No data available
Partition coefficient: n-octanol/water:	No data available
Decomposition Temperature:	No data available
Volatile organic compounds (VOC) content:	880.0 gram/liter (maximum value)

10. Stability and Reactivity

10.1. Reactivity:	No data available
10.2. Possibility of hazardous reactions:	Stable under normal temperature
10.3. Chemical stability:	Not expected
10.4. Conditions to avoid:	High and freezing temperatures.
10.5. Incompatible materials:	Acids and oxidizing agents
10.6. Hazardous decomposition products:	Thermal decomposition will produce oxides of carbon, copper and nitrogen.

11. Toxicological Information

*Based on toxicology data of chemically similar material

Acute Health Hazards:

1) Diethylene glycol diethyl ether	Oral LD50	4970mg/kg (Rat)*
	Dermal LD50	6097mg/kg (Rabbit)*
	Inhalant LC50	No data available
2) Dialkylene glycol dialkyl ether	Oral LD50	6000mg/kg (Rat)*
	Dermal LD50	6526mg/kg (Rabbit)*
	Inhalant LC50	No data available

Skin corrosion/irritation:	No data available
Serious eye damage/eye irritation:	No data available
Respiratory or skin sensitisation:	No data available
Germ cell mutagenicity:	Negative (by Ames Test)
Reproductive toxicity:	No data available Suspected of damaging fertility or the unborn child.(Tetraethylene glycol dimethyl ether and a similar chemical)
Carcinogenicity:	None of the ingredients in this ink is listed by IARC as a carcinogen. (1,2A and 2B)

STOT-single exposure:	Overexposure of eye may be irritating. Overexposure of skin may cause irritation and in some people swelling and redness. Inhalation may result in respiratory irritation and anesthesia. Ingestion may cause an upset stomach.
STOT-repeated exposure:	No data available
Aspiration hazard:	No data available

12. Ecological Information

Ecotoxicity:	No data available
Persistence/Degradability:	No data available
Bioaccumulation/Accumulation:	No data available
Mobility in environment media:	No data available
Other adverse effects:	No data available

13. Disposal Considerations

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Do not flush to surface water or sanitary sewer system.

14. Transport Information

14.1. UN Class/UN Number:	
ADR/ADG/DOT, IMDG, or IATA :	Not applicable
14.2. UN proper shipping name:	
ADR/ADG/DOT, IMDG, or IATA :	Not applicable
14.3. Transport hazard class(es):	
ADR/ADG/DOT, IMDG, or IATA :	Not applicable
14.4. Packing group:	
ADR/ADG/DOT, IMDG, or IATA :	Not applicable
14.5. Environmental hazards:	
ADR/ADG/DOT, IMDG, or IATA :	Not applicable
14.6. Special precautions for user:	Transport and storage of the product in accordance with general precautions and instructions mentioned in this SDS.
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and IBC code:	Not applicable

15. Regulatory Information

US information:

Toxic Substances Control Act (TSCA): All ingredients are listed on the TSCA Inventory.

Product contains Diethylene glycol diethyl ether that is subject to TSCA Section 5 SNUR and to TSCA Section 12(b) export notification requirements.

Product contains Tetraethylene glycol dimethyl ether that is subject to TSCA Section 5 proposed SNUR and to TSCA Section 12(b) export notification requirements.

California; Proposition 65: Not regulated

SARA TITLE III:

Section 313:

Diethylene glycol diethyl ether (Chemical Category N230)

Dialkylene glycol dialkyl ether (Chemical Category N230)

EU information:

Chemical Safety Assessment according to (EC)1907/2006:

This product has not carried out any Chemical Safety Assessment yet.

Australia Information:

Hazardous statement: Classified as hazardous according to NOHSC criteria.

16. Other Information

NFPA 704: Hazard Rating System

Health - 1 , Flammable - 2 , Reactivity - 0

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

The information in this Safety Data Sheet (SDS) is believed to be correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. It is subject to revision as additional knowledge and experience is gained. Roland DG does not warrant the completeness or accuracy of the information contained herein.

Safety Data Sheet

1. Product and Company Identification

Product name:

EcoXtreme i, AI3-LM Ver.2

Manufacture:

Roland DG Corporation

Address:

1-6-4 Shinmiyakoda, Kita-ku, Hamamatsu-shi,
Shizuoka-ken, 431-2103

JAPAN

Phone:

+ 81-53-484-1224

Fax:

+ 81-53-484-1226

Importer/Supplier:

Roland DGA Corporation

Address:

15363 Barranca Parkway Irvine, CA 92618-2201

U.S.A.

Phone:

949-727-2100

Fax:

949-727-2112

Emergency telephone:

949-727-2100

Use of the product:

Inkjet Printing

Date of issue:

17 December, 2014

2. Hazard Identification

2.1 Emergency Overview:

Appearance and odor:

Light Magenta liquid and slight odor

This product is classified as dangerous according to GHS.

Flammable liquids

Category 4

Skin corrosion/irritation

Category 2

Toxic to reproduction

Category 1B

GHS label elements, including precautionary statements

Pictogram



Signal word(s)

Danger

Hazard statement(s)

Combustible liquid.

Causes skin irritation.

May damage fertility or the unborn child

Precautionary statement(s)

Prevention	Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Wear protective gloves/protective clothing/eye protection/face protection.
Response	IF ON SKIN: Wash with plenty of soap and water. IF exposed or concerned: Get medical advice/attention.
Storage	Store in a well-ventilated place. Keep cool.

2.2. OSHA regulatory status

This product is considered hazardous material by the OSHA Communication Standard (29 CFR 1910.1200)

2.3. Potential health effects

Likely route of exposure:	Eye, skin, inhalation or oral.
Eyes:	Contact with eye will be irritating.
Skin:	Contact with skin may cause irritation, swelling or redness.
Inhalation:	Exposure to vapors (mist) may be harmful to the unborn child and at the risk of impaired fertility.
Ingestion:	May cause upset stomach.
Chronic Health Hazards:	None Known.
Carcinogenicity:	None of the ingredients in this ink is listed by IARC as a carcinogen. (1,2A and 2B)

3. Composition/Information on Ingredients

Composition	CAS No.	% By Weight	Classification HCS
Diethylene glycol diethyl ether	112-36-7	53-62	Skin Irrit. 2: H315
Dialkylene glycol dialkyl ether	C.B.I.	20-25	Not classified as hazardous
Tetraethylene glycol dimethyl ether	143-24-8	7-11	Repr. 1B: H360

*C.B.I.: Confidential Business Information

4. First Aid Measures

4.1. First aid procedures

Eyes:	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids open during flushing. Call a physician.
Skin:	In case of contact, immediately flush with plenty of water while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. If swelling or redness occurs, call a physician.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
Ingestion:	If swallowed, DO NOT induce vomiting. Seek immediate medical advice.

4.2. Note to physicians

May cause skin and eye irritation. Excessive inhalation of mist will cause respiratory irritation.

5. Fire Fighting Measures

5.1. Flammable properties:

Combustible liquid under Hazard Communication Standard (HCS, U.S.A).

Flash Point: about 70 deg.C (T.C.C.)

5.2. Extinguishing media

Suitable extinguishing media:

Water spray, dry chemical, CO₂ or foam.

Unsuitable extinguishing media:

No information

5.3. Protection of fire fighters

Special hazards arising from the substance or mixture

Toxic and irritating fume and/or gases may generate by combustion.

Protective equipment and precautions for firefighters

Wear self-contained breathing apparatus (SCBA) and full protective equipment.

Applying direct water may be dangerous because fire may expand to surroundings.

6. Accidental Release Measures

General:

Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill. Absorb spill with sand or earth then place in a chemical waste container.

6.1. Personal precautions

Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus and wear appropriate personal protective equipment.

6.2. Environmental precautions

Dike spill. Prevent liquid from entering sewers, waterways or low areas.

6.3. Methods for containment

Dike spilled product.

6.4. Methods for Clean-up

Soak up with sand or earth. Sweep up material and dispose as waste following local regulations. Scrub contaminated area with detergent and water.

6.5. Other information

No information

6.6. Spill or leak statements by type of chemical

Eliminate all ignition sources. Use appropriate personal protective equipment (PPE). Absorb and/or contain spill with inert sand, then place in suitable container. For large spills; use water spray to disperse vapors and dilute spill to a nonflammable mixture. Do not flush to sewer. Prevent run-off from entering drains, sewers or waterways.

7. Handling And Storage

7.1. Handling

Avoid contact with eyes, skin and clothing. Use proper ventilation and no fire in work place. Put protection wear that has electrical conductivity in case of work. Keep out of reach of children and do not drink. Do not dismantle container. Make sure cartridge is dry before insertion into printer housing.

7.2. Storage

Do not store the product in high or freezing temperatures. Keep the product out of direct sunlight. Do not store the product with oxidizing agents or explosives.

8. Exposure Controls/Personal Protection

8.1. Exposure Guidelines

Occupational Exposure Limits:

EU: DNEL

components	Long term exposure	Short term exposure
Tetraethylene glycol dimethyl ether	22mg/m ³	-

REACH Toxicological Information (Workers - Hazard via inhalation route)

US: California OELs (California Code of Regulations, Title 8, Section 5155. Airborne Contaminants)

components	PEL
Diethylene glycol diethyl ether	5ppm, 33mg/m ³

8.2. Engineering controls

Provide general and/or local exhaust ventilation.

8.3. Personal protective equipment (PPE)

Eye/face protection:	Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, wear safety glasses or chemical splash goggles.
Hand protection:	Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, use protective gloves.
Skin protection:	Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, wear protective clothing.
Respiratory protection:	In case ventilation is insufficient, wear respiratory protection. Use a half facepiece respirator (with goggles) or full face-piece respirator (without goggles) filtered with organic vapor cartridge.
General hygiene measures:	Wash hands after handling. In case contact with clothing, wash before reuse. Do not eat, drink or smoke in handling or storage area.

9. Physical and Chemical Properties

Appearance:	Light Blue liquid
Odor:	Slight Solvent odor
Boiling point:	188.9 deg.C (Diethylene glycol diethyl ether) 176.0 deg.C (Dialkylene glycol dialkyl ether)
Melting point:	No data available
Flash point:	70 deg.C (T.C.C.)
Auto-ignition temperature:	No data available
Viscosity:	No data available
Relative density:	0.946 at 25deg.C
pH:	No data available
Solubility in Water:	Easily soluble (Diethylene glycol diethyl ether) Fusibility (Dialkylene glycol dialkyl ether)
Solid content:	No data available
Explosive properties:	
explosive limit	lower limits: 0.6vol% upper limits 13.0vol% (Diethylene glycol diethyl ether) lower limits 2.5vol% upper limits 33.0vol% (Dialkylene glycol dialkyl ether)
Oxidizing properties:	No data available
Vapor pressure:	0.38mmHg (20deg.C) (Diethylene glycol diethyl ether)

Evaporation rate:	No data available
Partition coefficient: n-octanol/water:	No data available
Decomposition Temperature:	No data available
Volatile organic compounds (VOC) content:	880.0 gram/liter (maximum value)

10. Stability and Reactivity

10.1. Reactivity:	No data available
10.2. Possibility of hazardous reactions:	Stable under normal temperature
10.3. Chemical stability:	Not expected
10.4. Conditions to avoid:	High and freezing temperatures.
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Skin corrosion/irritation:	No data available
Serious eye damage/eye irritation:	No data available
Respiratory or skin sensitisation:	No data available
Germ cell mutagenicity:	Negative (by Ames Test)
Reproductive toxicity:	No data available Suspected of damaging fertility or the unborn child.(Tetraethylene glycol dimethyl ether and a similar chemical)
Carcinogenicity:	None of the ingredients in this ink is listed by IARC as a carcinogen. (1,2A and 2B)
STOT-single exposure:	Overexposure of eye may be irritating. Overexposure of skin may cause irritation and in some people swelling and redness. Inhalation may result in respiratory irritation and anesthesia. Ingestion may cause an upset stomach.
STOT-repeated exposure:	No data available
Aspiration hazard:	No data available

12. Ecological Information

Ecotoxicity:	No data available
Persistence/Degradability:	No data available
Bioaccumulation/Accumulation:	No data available
Mobility in environment media:	No data available
Other adverse effects:	No data available

13. Disposal Considerations

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14. Transport Information

14.1. UN Class/UN Number:

ADR/ADG/DOT, IMDG, or IATA : Not applicable

14.2. UN proper shipping name:

ADR/ADG/DOT, IMDG, or IATA : Not applicable

14.3. Transport hazard class(es):

ADR/ADG/DOT, IMDG, or IATA : Not applicable

14.4. Packing group:

ADR/ADG/DOT, IMDG, or IATA : Not applicable

14.5. Environmental hazards:

ADR/ADG/DOT, IMDG, or IATA : Not applicable

14.6. Special precautions for user:

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14.7. Transport in bulk according to Annex II of MARPOL 73/78 and IBC code:

Not applicable

15. Regulatory Information

US information:

Toxic Substances Control Act (TSCA): All ingredients are listed on the TSCA Inventory.

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California; Proposition 65: Not regulated

SARA TITLE III:

Section 313:

Diethylene glycol diethyl ether (Chemical Category N230)

Dialkylene glycol dialkyl ether (Chemical Category N230)

EU information:

Chemical Safety Assessment according to (EC)1907/2006:

This product has not carried out any Chemical Safety Assessment yet.

Australia Information:

Hazardous statement: Classified as hazardous according to NOHSC criteria.

16. Other Information

NFPA 704: Hazard Rating System

Health - 1 , Flammable - 2 , Reactivity - 0

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

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